REMARKS

Claims 1 and 4-18 are pending in the present patent application. Claims 1, 4-6, 10-13, 15 and 18 stand rejected; and claims 7-9, 14, 16 and 17 stand objected to. This application continues to include claims 1 and 4-18.

The Examiner has objected to claims 7-9, 14, 16 and 17 as being dependent upon a rejected base claim, but has indicated that claims 7-9, 14, 16 and 17 contain allowable subject matter, and would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for the indication of allowability regarding claims 7-9, 14, 16 and 17.

However, in view of Applicants' response to the rejection of claims 1, 4-6, 10-13, 15 and 18, set forth below, Applicants respectfully request that the objection to claims 7-9, 14, 16 and 17 be withdrawn.

Claims 1, 4-6, 10-13, 15, and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kosaka, et al., U.S. Patent No. 6,283,577 B1 (hereinafter, Kosaka) in view of Niimura, U.S. Patent Application Publication No. 2003/0214659 A1 (hereinafter, Niimura). Applicants respectfully request reconsideration of the rejection of claims 1, 4-6, 10-13, 15 and 18 in view of the following.

Kosaka is directed to a method of flushing a recording head of an ink jet recording apparatus which make it possible to carry out flushing without suspending a printing process (col. 1, lines 42-45).

Kosaka discloses a printing region, and that ink droplets are ejected in auxiliary regions outside the printing region, toward an ink absorber 8 (col. 6, lines 5-8, Fig. 6). Although flushing

is carried out when the carriage 4 is moving in the auxiliary regions, flushing may also be carried out while the carriage is accelerated or decelerated in the respective acceleration/deceleration regions (col. 6, lines 20-24, Fig. 6).

Niimura is directed to a printer control program for recovering the nozzles of a printing apparatus (paragraph 1).

Niimura discloses that if a preliminary-discharge command flag is set at step S411, control returns to step S404, after which control proceeds from step S405 to step S412, and that when image data is rendered, the preliminary discharge data generating module 105e is executed to thereby generate one raster of image data by combining the preliminary-discharge image data with the print image data (paragraph 47, Fig. 6). Where the preliminary discharge position is spaced away from the printing zone, NULL data for which ink is not discharged is added as dummy data between the print image data and the preliminary-discharge image data, whereby raster data is generated as overall data (paragraph 47, Fig. 6).

Applicants believe that claims 1, 4-6, 10-13, 15, and 18 patentably define Applicants' invention over Kosaka in view of Niimura, for at least the reasons set forth below.

Applicants hereby incorporate by reference their arguments set forth in their previous Response, electronically filed November 15, 2006.

Claim 1 is directed to a method of performing printhead maintenance firing in an ink jet printer that has a printhead carrier that carries an ink jet printhead, said ink jet printer having a waste ink receptacle.

Claim 1 recites, among other things, controlling a firing of said printhead during said decelerating in accordance with maintenance data so that ink droplets ejected from said printhead

during said decelerating are received by said waste ink receptacle, and said maintenance data being appended to said print data for a particular printing swath pass for serialization to said printhead.

Kosaka does not disclose, teach, or suggest maintenance data being appended to the print data for a particular printing swath pass for serialization to the printhead, as recited in claim 1, which is acknowledged by the Examiner in the rejection of claim 1.

In addition, Niimura does not disclose, teach, or suggest maintenance data being appended to the print data for a particular printing swath pass for serialization to the printhead, as recited in claim 1, nor is it asserted so.

Rather, in the Response to Arguments, it is acknowledged that Niimura does not disclose, teach, or suggest appending the preliminary data to image data.

It is also asserted in the Response to Arguments that one cannot show nonobviousness by attacking references individually where the rejections are based on a combination of the references, and that the test of obviousness is what a combination of the references would suggest to a person of ordinary skill in the art.

However, to establish prima facie obviousness of a claimed invention, <u>all</u> the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (Fed. Cir. 1974). (MPEP 2143.03).

As acknowledged by the Examiner, neither of the Kosaka and Niimura references disclose or teach the maintenance data being appended to the print data, and hence, the combination of Kosaka and Niimura does not disclose or teach the maintenance data being appended to the print data, as recited in claim 1.

In addition, Applicants respectfully submit that Kosaka and Niimura, taken alone or in combination, do not suggest the maintenance data being appended to the print data.

In the Response to Arguments, it is asserted that since Niimura discloses embedding preliminary discharge data at positions corresponding to the preliminary discharge position, and since Kosaka discloses a preliminary discharge position as the deceleration region after printing, it would have been obvious to a person of ordinary skill in the art to append the maintenance data rather than adding the maintenance data to the print image data.

However, the asserted Niimura maintenance data is "preliminary" discharge data, which suggests that the discharge data pertains to discharging ink preliminarily, e.g., <u>before</u> printing, whereas the Kosaka deceleration region occurs <u>after</u> printing.

There is no suggestion in Kosaka and Niimura, taken alone or in combination, as might recommend employing <u>preliminary</u> discharge data pertaining to ink discharge <u>before printing</u> in a <u>deceleration region after printing</u> has been performed.

In addition, MPEP 2143.01(I) provides that the prior art must suggest the desirability of the claimed invention.

However, there is nothing in Kosaka and Niimura, taken alone or in combination, as might otherwise suggest the desirability of combining the preliminary discharge data pertaining to ink discharge before printing, as taught by Niimura, with the deceleration region after printing has been performed, as taught by Kosaka, in order to achieve the invention of claim 1.

MPEP 2143.01(III) provides that the mere fact that references <u>can</u> be combined or modified does <u>not</u> render the resultant combination obvious <u>unless the prior art also suggests the desirability of the combination</u>. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Applicants respectfully submit that since Kosaka and Niimura, taken alone or in combination, do <u>not</u> suggest the desirability of the combination of Kosaka and Niimura, even if Kosaka and Niimura can be combined or modified to yield the subject matter of claim 1, this <u>does not render the resultant combination</u> obvious in consideration of MPEP 2143.01(III) and *In re Mills*.

Accordingly, claim 1 is not obvious in view of Kosaka and Niimura.

Further, MPEP 2144 provides that the strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that <u>some advantage or expected beneficial result would have been produced by their combination</u>. *In re Sernaker*, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983).

However, there has been <u>no recognition</u>, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, <u>that some advantage or expected beneficial result would have been produced by the combination</u> of Kosaka and Niimura.

Rather, at most, any combination of Kosaka and Niimura would yield results already obtained by Kosaka, and hence, there would be <u>no advantage or expected beneficial result produced by their combination</u>.`

Still further, MPEP 2144 provides that legal precedent can provide the rationale supporting obviousness <u>only if the facts in the case are sufficiently similar to those in the application</u>.

However, the In Re Keller and In Re Merck & Co. cases relied upon in rejecting claim 1 (in the Response to Arguments section on page 5 of the Office Action) pertain to a cardiac pacer and medicinal chemical arts, respectively, which are both unrelated to and not sufficiently similar to performing printhead maintenance firing.

Accordingly, for at least the reasons set forth above, Kosaka and Niimura, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 1, and claim 1 is not obvious in view of Kosaka and Niimura, taken alone or in combination.

Claim 1 is thus believed allowable in its present form.

Claims 4-6 and 10 are believed allowable due to their dependence on otherwise allowable base claim 1. In addition, claims 4-6 and 10 further and patentably define the invention over the Kosaka and Niimura references, taken alone or in combination.

Claim 11 is directed to a method of performing printhead maintenance firing in an ink jet printer that has a printhead carrier that carries an ink jet printhead, said ink jet printer having a waste ink receptacle. Claim 11 recites, in part, appending said timing segment and said maintenance segment to said print data segments.

Applicants respectfully submit that Kosaka and Niimura, taken alone or in combination, do not disclose, teach, or suggest appending a timing segment and a maintenance segment to print data segments for substantially the same reasons as set forth above with respect to claim 1.

In addition, claim 11 recites receiving print data in a form of print data segments.

Applicants respectfully submit that Kosaka and Niimura, taken alone or in combination, do not disclose, teach, or suggest receiving print data in the form of print data segments.

Rather, Kosaka and Niimura do not disclose, teach, or suggest the nature of any print data, much less that print data is in the form of print data segments.

In the Response to Arguments, it is asserted that data, by definition, consists of data bits, and that hence, the limitation pertaining to print data segments is met.

However, Applicants respectfully submit that one skilled in the art would not interpret print data segments to be synonymous with print data bits, e.g., one print segment per bit, as implied in the Response to Arguments.

Rather, Applicants respectfully submit that one skilled in the art would interpret a print data segment to be a segment of print data, wherein the print data in the segment is manifested by a plurality of bits.

Further, assuming arguendo that print data consists of bits, it will be understood that Applicants' claim 11 further defines that the print data is in the form of print data segments.

Thus, if the print data consists of bits, that data is further defined as being in the form of print data segments. Kosaka and Niimura, taken alone or in combination, do not disclose, teach, or suggest bits of print data that are in the form of segments.

In addition, in the Response to Arguments, Niimura Fig. 6 is relied on as assertedly disclosing print data is in the form of print data segments.

However, Niimura Fig. 6 illustrates an "ACTUAL PRINTING ZONE," without indicating the nature of any print data supplied while operating in the actual printing zone.

Even if, arguendo, the Niimura "ACTUAL PRINTING ZONE" of Fig. 6 were interpreted to be print data, it is not illustrated in any manner as being in the form of print data segments.

That is, at most, such an interpretation would yield a single print data segment, not print data segment<u>s</u>, as recited in claim 11, wherein the word, "segment" is in plural form, thus indicating more than one segment, for example, as illustrated in Applicants' Fig. 4, which depicts a print data segment A, a print data segment B, and a print data segment C.

Accordingly, Kosaka and Niimura, taken alone or in combination, do not disclose, teach, or suggest receiving print data in a form of print data segments, as recited in claim 11.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Kosaka and Niimura, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 11, and that the combination of Kosaka and Niimura would not yield Applicants' invention of claim 11. Claim 11 is thus believed allowable in its present form.

Claims 12, 13, 15 and 18 are believed allowable due to their dependence on otherwise allowable base claim 11. In addition, claims 12, 13, 15 and 18 further and patentably define the invention over the Kosaka and Niimura references, taken alone or in combination.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Kosaka and Niimura, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claims 1, 4-6, 10-13, 15 and 18, and that the combination of Kosaka and Niimura would not yield Applicants' invention of claims 1, 4-6, 10-13, 15 and 18.

For the foregoing reasons, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the appended claims. The appended claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (317) 894-0801.

Respectfully submitted,

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